Outfall 002A – TCE Exceedance in December 2019 and Plan of Action

The TCE concentration in the sample from outfall 002A (groundwater infiltration) was 5.4 ppb this month, compared to a permit limit of 5 ppb.

We believe this exceedance was due to incomplete capture of dry weather flow during the month prior to and possibly at the time of sample collection.

The reasons for this conclusion are as follows:

1. Dry weather flow was unable to be recovered from 12/4/2019 to 12/26/2019 due to an electrical failure that irreparably damaged electrical components (load reactors and VFDs) necessary to operate the dry-weather flow pumps. The parts were replaced and the dry weather flow recovery system was put back online at 10:00AM on 12/26/2019.
2. Dry weather flow was not being recovered for a duration greater than 1 hour within 24 hours of sampling. An additional shutdown of the dry weather flow recovery system occurred (due to excess biofouling in the pre-filtration system) at 2:00AM on the day of sampling (12/27/2019). The dry weather flow recovery system was put back online on 12/27/2019 at 8:00AM and operated without issue for approximately 6 hours before the sampling event.
3. Full capture of dry weather flow may not have been achieved at the time of sample collection at a recovery flow rate of 43.2 gallons per minute (gpm). The overflow switch installed at the top of the baffle was not engaged; however, it is possible that the extent of the overflow was not great enough at the time of sample collection to engage the alarm. The height of water measured in the pump chamber at the time of 002A sample collection (1:48 PM on 12/27/2019) was 4.008 ft-bgs which is approximately 1.06 inches below the top of the baffle in CB-87R and had been below the baffle wall height (estimated to be 3.92 ft bgs) for approximately six hours. However, due to historic discrepancies in measured flowrates at Outfall 002A and Effluent 002B, it is assumed that the water level in CB-87R is not equal to the water level in the pump chamber.

The following corrective action(s) took place and/or are planned:

1. Electrical components which failed were replaced for the stormwater pumps. It is also recommended that the wiring connecting to the pumps be replaced with VFD cables for increased protection.
2. We will operate and maintain the dry weather recovery system, up to the design maximum vault recovery rate, such that dry conditions on the downstream side of the baffle are achieved whenever possible.
3. An additional level transmitter was installed in CB-87R in November 2019 to more definitively conclude whether or not flow is going over the baffle wall. However, there was an internal short in the transmitter, due to moisture damage on 12/6/2019, which caused irreparable damage to the unit. AECOM is working with the GWTP operator to identify, procure and install a more water-resistant alternative.